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# KIENA GOLD MINES LIMITED

## EXECUTIVE OFFICE

7 KING STREET EAST.....*Toronto*

## MINE OFFICE

.....*Val d'Or, Quebec*

## OFFICERS

J. P. MILLENBACH..... *President*

G. T. N. WOODROOFFE..... *Vice-President*

A. C. CALLOW..... *Secretary*

J. T. McWHIRTER..... *Treasurer*

## DIRECTORS

A. S. DADSON..... *Toronto*

H. S. MCGOWAN..... *Toronto*

J. P. MILLENBACH..... *Toronto*

G. N. MOORE..... *Montreal*

R. C. MOTT..... *Toronto*

W. T. SWENSON..... *Toronto*

G. T. N. WOODROOFFE..... *Toronto*

## TRANSFER AGENT and REGISTRAR

CROWN TRUST COMPANY

302 Bay Street	393 St. James Street, West
Toronto	Montreal

## AUDITORS

CLARKSON, GORDON & Co..... *Toronto*

## ANNUAL AND GENERAL MEETING

Elizabeth Room,

King Edward Sheraton Hotel, Toronto

Wednesday, June 30, 1965

10:30 o'clock a.m. (Toronto Time)



## KIENA GOLD MINES LIMITED

### REPORT OF THE DIRECTORS

#### TO THE SHAREHOLDERS:

Your directors submit, herewith, the Annual Report of your Company for the year ended December 31, 1964. This includes the financial statements, the Auditors' Report, and a summary report on exploration and development by Falconbridge Nickel Mines Limited.

The Falconbridge report covers the exploration and development work carried out during the year under review, with comments on the results obtained to date, and an outline of plans for the 1965 program.

The concept of a continuous ore-bearing S-50 Zone is no longer tenable. There appears to be a more or less continuous S-50 "breccia zone" which carries concentrations of gold-bearing mineralization in certain areas. As yet, it is not known whether these areas should be considered in toto, as large potential low-grade mining blocks, or whether they contain medium-grade ore

shoots which would be better exploited by selective stoping methods. Much detailed work is required before this problem can be clarified.

Above the 560-foot level the presence of several separate ore lenses has been indicated. Drilling in this area is still in progress, but only relatively small tonnages are anticipated.

The area between the 560 and 900-foot levels has provided the most consistent drill results. It should be emphasized that in this block the preliminary Falconbridge estimate of 1,800,000 tons is based on the over-all gold-bearing zone. More closely spaced drilling has been planned for the purpose of outlining the higher grade portions.

Between the 900 and 1100-foot levels the breccia zone is relatively weak, is cut by numerous post-zone dikes, and appears to have been broken up by faulting. The group-

ing of some narrow ore-grade intersections suggests that a few small stopes may be developed eventually, but more data are needed.

Information below the 1100-foot level is not sufficient for outlining the potential ore-bearing areas, much less the possible individual ore shoots. Because of the length of the holes required and the dip of the zone, it is doubtful if further down drilling from this level can be justified.

The long drive to the north, on the 1100-foot level, is being driven to provide a base for investigating possible extensions of the S-50 Zone structure and to test the ore indications found by early work in the so-called North Zone.

#### FINANCING

Pursuant to the agreement made between your Company and Falconbridge Nickel Mines Limited in 1962, Falconbridge incurred expenditures of \$935,442 in carrying out the exploration and development work accomplished during the year ended December 31, 1964, for which it is entitled to receive 935,442 preference shares of your Company. The number of unissued preference shares is sufficient for financing the program now planned for 1965.

On behalf of the Board,

J. P. MILLENBACH,  
President.

Toronto, Ontario,  
June 7, 1965.



**KIENA  
GOLD MINES  
LIMITED**

-----Incorporated under the laws of Ontario-----

**BALANCE SHEET — DECEMBER 31, 1964**

**ASSETS**

**CURRENT:**

Cash.....		\$ 32,579
Accounts receivable.....		721
		<u>33,300</u>

**FIXED:**

Land, buildings, machinery and equipment, at cost.....	\$ 155,427	
Mining claims and properties, at cost.....	331,590	487,017

**OTHER:**

Development and other expenditures (notes 1 and 2).....	2,368,855	
Deposit for electric power.....	15,961	2,384,816
		<u>\$ 2,905,133</u>

**LIABILITIES**

**LONG TERM:**

6% income debentures due December 31, 1977-1978 (note 3).....	\$ 250,000
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**SHAREHOLDERS' EQUITY:**

Capital (notes 1 and 4) —

Authorized:

2,500,000 6% redeemable, non-voting preference shares with a  
par value of \$1.00 each (cumulative until December  
31, 1968)

5,000,000 common shares without par value

Issued:

938,297 preference shares..... 938,297

4,876,848 common shares..... 895,786

1,834,083

To be issued:

935,442 preference shares (note 1)..... 935,442

2,769,525

Less deficit (no change during 1964)..... 114,392 2,655,133

\$ 2,905,133

On behalf of the Board:

J. P. MILLENBACH, Director

G. T. N. WOODROOFFE, Director

See notes to financial statements

**AUDITORS' REPORT**

To the Shareholders of

KIENA GOLD MINES LIMITED:

We have examined the balance sheet of Kiena Gold Mines Limited as at December 31, 1964 and the statement of development and other expenditures for the year then ended. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion the accompanying balance sheet and statement of development and other expenditures present fairly the financial position of the company as at December 31, 1964 and the results of its operations for the year then ended, in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Toronto, Canada,  
March 16, 1965

CLARKSON, GORDON & CO.  
Chartered Accountants.

## STATEMENT OF DEVELOPMENT AND OTHER EXPENDITURES FOR THE YEAR ENDED DECEMBER 31, 1964

Balance, December 31, 1963.....			\$ 1,417,981
Expenditures during 1964:			
Exploration (including diamond drilling of \$29,271).....	\$	112,225	
Shaft sinking and underground development.....		648,949	
Engineering.....		77,326	
General expense at the property.....		86,062	
Administrative and corporate expenses.....		26,312	950,874
Balance, December 31, 1964.....			<u>\$ 2,368,855</u>

## NOTES TO FINANCIAL STATEMENTS DECEMBER 31, 1964

- The company has entered into an agreement to issue preference shares to Falconbridge Nickel Mines Limited as consideration for any prospecting, exploration and development work carried out by Falconbridge on Kiena's property on the basis of one preference share for each \$1 expended; the tax benefits with respect to these expenditures are claimable by Falconbridge. Pursuant to this agreement Falconbridge incurred expenditures of \$935,442 during the year ended December 31, 1964 for which, as at December 31, 1964, it was entitled to receive 935,442 preference shares. During the year the company issued 643,078 preference shares for similar expenditures incurred in 1963.  
The agreement also provides that all preference shares outstanding must be redeemed before any dividends are paid on the common shares.
- Development and other expenditures include a total of \$1,823,253 in respect of which the tax benefits are claimable by other companies.
- The interest on the income debentures, which is payable only out of profits, is cumulative and at December 31, 1964 amounted to \$23,605.
- At December 31, 1964 arrears of dividends on the preference shares amounted to \$74,758.



## SUMMARY REPORT ON EXPLORATION AND DEVELOPMENT

THE PRESIDENT AND DIRECTORS,  
KIENA GOLD MINES LIMITED.

The following is a summary report on exploration and development carried out on the property of Kiena Gold Mines Limited during the year ended December 31, 1964. Comments on the underground exploration are based on information obtained in both 1964 and the current year to date. The report also includes a brief outline of work planned for the balance of the year 1965.

### SURFACE

#### *Diamond Drilling*

Holes S-119 and S-120, suspended in 1963 because of the spring break-up, were completed during January and February, 1964, the footage drilled amounting to 1,349 feet. No intersections of importance were obtained. A controlled hole, S-122, was drilled on the north shore of Parker Island to a depth of 2,410 feet, returning an intersection in the S-50 zone at footage 1,953 to 1,996 feet, averaging 0.17 ounces gold per ton over 43 feet.

#### *Geophysical Survey*

The magnetometer survey on the lake ice, which was begun in March, 1963, was completed in early 1964.

### UNDERGROUND

The sinking of No. 1 Shaft was completed in September at a depth of 1,324 feet, for a total of 1,105 feet of sinking in the year. Stations were established at the 240, 410, 560, 700, 800, 900, 1000, 1100 and 1250-foot levels. Sumps and pumping facilities were installed on the 1250-foot level.

#### *Underground Development*

Development was begun in September and by the year-end 6,875 linear feet had been completed. Most of this work was done on the 560, 900 and 1100-foot levels. The layout of these levels is shown on the plan forming part of this report. Primarily, these headings were planned to provide bases for the definition drilling of the S-50 zone in the ore-bearing area indicated by surface drilling. Development progress during the year 1964 is summarized in Table I.



Ground conditions, both in the shaft and on the levels, generally have been good. However, ground support has been found necessary in local heavily sheared areas. The amount of underground water encountered has been small.

### *Underground Diamond Drilling*

Underground drilling commenced in September but the full scheduled rate was not attained until December, when sufficient drill stations were established. At the year-end, 19,509 feet had been completed, repre-

senting about one-third of the initial program to explore the S-50 zone to the 2000-foot level. Since the year-end, this work has been substantially advanced and it is expected to be completed in the early summer of 1965.

The primary pattern of definition drilling has consisted of rings of holes drilled from the three levels referred to above on east-west section lines spaced 100 feet apart. These levels provide a natural separation of the zone into four areas of interest as outlined subsequently in this report.

TABLE I  
SUMMARY OF EXPLORATION AND DEVELOPMENT—YEAR 1964

	Diamond Drilling Ft.	Shaft Sinking Ft. Cu. Ft.	Station Cutting Cu. Ft.	Lip Pockets Cu. Ft.	Sumps Cu. Ft.	Drifting & Cross- cutting Ft.	Raising Ft.	Slashing Ft.	Waste Tons	Ore Broken Tons oz.	Grade Au/T.
Surface	3,759										
#1 Shaft		1,105	210						17,145		
240 Level				5,227					435		
410 Level				15,646	2,940	15			1,625		
560 Level	1,028			15,245	2,940	2,457		11,256	15,695	400	.15
700 Level				11,190					930		
800 Level				10,735					890		
900 Level	5,232			16,785	2,940	1,421		4,580	9,040	950	.20
1000 Level				9,910					825		
1100 Level	12,966			18,409	2,940	2,601	72	10,846	16,310	1,455	.10
1250 Level	283			20,220		41,224	139	170	6,295	35	.11
TOTAL	23,268	1,105	210	123,367	11,760	41,224	6,633	242	26,862	69,190	.140

It is evident, from the results obtained to date, that the problem of outlining ore is not a simple one. Although the so-called "ore zone breccia" which comprises the S-50 zone is a persistent structure, conforming reasonably well with that inferred from surface drilling, it is not consistently ore-bearing. Furthermore, within the ore-bearing areas, there is evidence that a better grade of mineralization occurs in local concentrations, possibly forming definite lenses of ore

within the zone. Thus, it is now apparent that the 100-foot spacing between sections is too great for correlation purposes and that fill-in drilling will be required.

The following is an assessment of results to date in the four main sections of the zone:

#### *(a) Zone above the 560-foot Level*

Several intersections of ore grade were obtained at shallow depths in surface drilling, but these were not well correlated.



Underground drilling in this area is under way and preliminary indications are that the surface intersections probably represent a number of lenses of ore of limited extent. These lenses appear to dip at 45 degrees or more and have true widths of 10 to 20 feet.

*(b) Zone between the 560 and 900-foot Levels*

Surface drilling had indicated that this section of the zone was better in grade and flatter in dip than in other areas. Underground drilling, though still incomplete, confirms the surface results. The dip of the zone is generally between 25 and 30 degrees. True widths are quite variable but usually range from 40 to 60 feet.

While the drill results have been more consistent in this area than in other parts of the zone there is, even here, considerable difficulty in correlating between the higher grade sections. It is still questionable whether the zone is suitable for bulk mining or whether individual higher grade shoots within the zone would be better mined selectively. Much more detailed work is needed before the mining potential can be determined.

Based on underground drilling in this block, a preliminary estimate of possible ore over a strike length of 600 to 700 feet indicates a total of 1,800,000 tons between these levels averaging 0.21 ounces gold per ton before allowance for dilution.

In accordance with previous practice, this grade was arrived at by cutting high assays to a maximum of 0.40 ounces gold per ton. When the high assays are cut to 1.0 ounces gold per ton, the overall average for the block becomes 0.225 ounces gold per ton. When assays are not cut, an average of 0.254 ounces gold per ton is obtained.

In preparing the above estimate, the assumed ore limits were drawn on a broad,

non-selective basis. Outlines, using higher-grade, more restricted interpretation, would yield a higher average grade and a reduced tonnage, but such an estimate will require much closer drilling.

*(c) Zone between the 900 and 1100-foot Levels*

Surface exploration had shown the ore in this area to be discontinuous and of low grade. Underground drilling has confirmed this interpretation. The zone is relatively weak and is intruded by a considerable amount of barren dike material and appears to have been broken up by faulting. Some drill intersections carried significant gold values but they probably represent relatively minor orebodies.

*(d) Zone below the 1100-foot Level*

Deep surface drilling in this section of the zone had returned several scattered intersections carrying low to medium grade values over relatively large widths. In view of the possibility that these intersections might not be representative of the zone as a whole, much of the underground drilling was concentrated on the 1100-foot level. This drilling tested the structure in fair detail between this horizon and the 2000-foot level over a maximum of 800 feet of strike length.

Results indicate that the zone has an average width of 100 feet and dips at 45 degrees. However, it appears to have been broken up in many places by post-ore faults and dikes, not recognizable in surface drill holes. Due to these factors, it is not expected that the entire ore potential inferred from surface drilling in this area will be realized. While there are indications that individual shoots of higher grade material may be outlined within the zone this can be confirmed only by deepening the present shaft and



carrying out detailed exploration from several deeper levels within the block.

#### OTHER AREAS

As has been characteristic of earlier work on the property, drilling during the period under review has returned a number of gold-bearing intersections outside the S-50 zone. These were encountered in the drilling from the 1100-foot level in the basalt below the zone. The best intersections are as follows:

Section	Hole No.	Core Length Feet	Sample Average Oz./ton Au.
7900N.	U-266	30.0	0.27
8000N.	U-120	29.5	0.32
8300N.	U-192	23.1	0.19
8600N.	U-115	37.0	0.24

As yet, very little is known regarding the significance of these intersections.

#### PROGRAM FOR 1965

As stated above, the initial definition drilling of the S-50 zone should be finished by early summer, 1965. This will be followed by drilling on more closely spaced sections

in selected parts of the zone between the 560 and 900-foot levels.

A drift is now being driven on the 1100-foot level to explore the "North", or No. 1, zone which lies 2,600 feet north of No. 1 shaft. This heading will also be used as a base for drilling the projected northward extension of the S-50 zone structure.

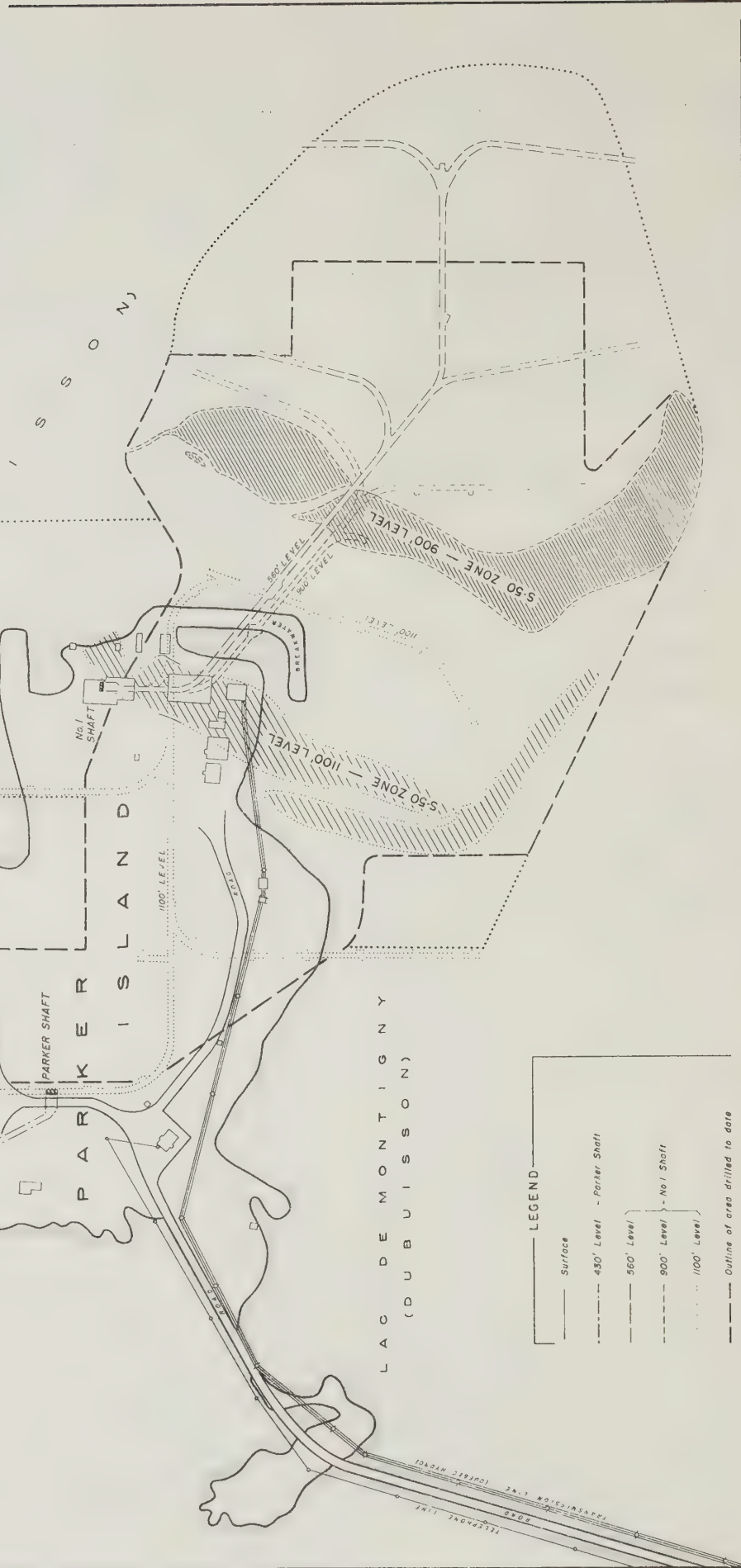
During the current year a bulk milling test of Kiena ore will be made in the cyanidation plant of Canadian Malartic Gold Mines Limited. In addition, preliminary mine planning and feasibility studies which were undertaken in 1964 will be expanded as more information becomes available.

The cost of the current year's exploration program has been estimated at \$582,000.

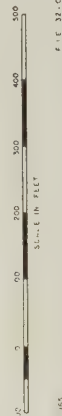
H. C. HERZ,  
Falconbridge Project Manager  
for Kiena.

Toronto, Ontario,  
June 3, 1965





COMPOSITE PLAN



















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TORONTO